1998 CALIFORNIA BUILDING CODE
CCR, TITLE 24, VOLUME 2B
STRUCTURAL ENGINEERING DESIGN PROVISIONS

ERRATA

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pg. xvi.36 **MATRIX ADOPTION TALBES**

CHAPTER 23—WOOD

Delete listed section "2304.5" and replace with section "2304.2"

pg. 8 ***SECTION 1625B – DEFINITIONS***
ALTERATION means any change in an existing building which does not increase and may decrease the floor or roof area or the volume of enclosed space. Approved existing building: Any building originally constructed in compliance with the requirements of the 1973 or subsequent edition of the California Building Code.

pg. 20 ***SECTION 1635B – ADDITIONS, ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDINGS OR STRUCTURES***

Existing hospital buildings (as defined in Section 7-111, Part 1, Title 24, ~~California Code of Regulations~~ Building Standards Administrative Code).

> ***NOTE:*** *Alterations to lateral shear force-resisting capacity and story lateral shear forces shall be considered to be cumulative for purposes of defining incidental or minor alterations or additions. The percentage of cumulative changes shall be based on as-built conditions existing on March 7, 1973.*

1635B.1 Alterations*. For this section, alterations include any additions, alterations, repairs, and/or seismic retrofits to an existing hospital building or portions thereof. The provisions of Section 3403, "Additions, Alterations or Repairs" of Chapter 34 of the California Building Code shall apply for hospital buildings.*

1635B.2 Seismic Retrofit*. Any seismic retrofits of hospital buildings required by Article 2 and Article 11, Chapter 6, Part 1, Title 24 shall meet the requirements of Sections 1640B through 1649B.*

> ***EXCEPTION:*** *Hospital buildings evaluated to SPC 1 due to deficiencies identified by Article 10, Chapter 6, Part 1, Title 24 may be upgraded to SPC 2 by altering, repairing, or seismically retrofitting these conditions in accordance with the requirements of Sections 1640B through 1649B.*

SECTION 1635B.3. *Alterations, additions and repairs to existing buildings or structures not required by Chapter 6, Part 1, Title 24.*

~~1635B.1~~ 1635B.3.1 ~~Structural Alterations or Additions to~~ Approved Existing Buildings. *Structural alterations or ~~additions~~ repairs may be made to approved buildings provided the entire building, as modified, including the structural alterations or ~~additions,~~*

repairs, conforms to Section 1640A through 1649A ~~these regulations~~ for the seismic structural performance category (SPC) of the building as determined in Chapter 6, Part 1, Title 24. Additions shall conform to the requirements of these regulations for new construction.

1635B.3.2 Pre-1973 Buildings

~~1635B.2~~ 1635B.3.2.1 Incidental Structural Alteration ~~or~~ Additions or Repairs ~~to Pre-1973 Buildings~~. *The existing structural elements affected by the alteration, ~~or~~ addition or repairs shall conform or shall be made to conform to the vertical load requirements of these regulations. Incidental structural additions will be permitted provided the additions meet these regulations for new construction using the importance factor, I, equal to or greater than 1.0. Alterations or repairs to the existing lateral load resisting system must meet the requirements of Sections 1640A through 1649A.*

~~1635B.3~~ 1635B.3.2.2 Minor Structural Alterations ~~or~~ Additions or Repairs ~~to Pre-1973 Buildings~~. *Minor structural alterations, ~~of~~ additions or repairs will be permitted provided they meet ~~these regulations using an importance factor, I, equal to 1.0. Further, the structural engineer shall state in writing that the existing building, as modified, is in reasonable conformity with or will be made to conform with these regulations using an importance factor, I, equal to 0.75.~~ the following: Alterations to existing gravity and/or lateral load resisting systems shall be made to conform to the requirements of Section 1640A through 1649A; or, additions shall meet all of the requirements of these regulations for new construction using an I equal to or great than 1.0.*

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~~1635B.4~~ 1635B.3.2.3 Major Structural Alterations ~~or~~ Addition or Repair ~~to Pre-1973 Buildings~~. *Major structural alterations ~~or additions~~ will be permitted provided the entire building, as modified, including the structural alterations or ~~additions~~, repairs conforms to ~~these regulations using an importance factor, I, equal to 1.5.~~ the requirements of Section 1640A through 1649A for no less than SPC.2. Additions shall meet the requirements of these regulations for new construction.*

~~1635B.5~~ 1635B3.3 *An alteration which involves the removal of one or more entire stories will be permitted if the lateral-load-resisting capacity of the remaining structure is not reduced.*
An alteration which involves the removal other than one or more entire stories will be permitted in accordance with Section ~~1635B.1 for approved existing buildings or Section 1635B.3 for pre-1973 buildings.~~ 1640B through 1649B.

~~1635B.6 Nonrequired structural alterations may be designed for any forces and constructed in any manner proposed by the applicant provided that the capability of existing structural elements to resist gravity, wind and seismic forces is not reduced or the loadings increased and further provided that new structural elements are connected to the existing structure in a manner as prescribed by these regulations~~

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FOOTNOTE 18 TO TABLE 16B-O-(Continued)

18 *Suspension systems for light fixtures which have passed shaking table tests approved **by** the enforcement agency, or which, as installed, are free to swing a minimum of 45 degrees from the vertical in all directions without contacting obstructions, shall be assumed to comply with the lateral-force requirements of Section 1630B.2.*

*Unless **of** the cable type, free-swinging suspension systems shall have a safety wire or cable attached to the fixture and structure at each support capable of supporting four times the supported load.*

pg. 38.41 ***TABLE 16A-V MAXIMUM DIAPHRAGM DIMENSION RATIOS***

Amend footnote 1

[1]Where lateral forces are resisted primarily by rotation, span-width ratios shall not exceed one half of the ~~tubular~~ tabular values. In concrete or masonry buildings, wood diaphragms or diaphragms of similar flexibility shall not be permitted to resist lateral forces by rotation.

pg. 184.73 ***1923A.3.3 Design strength in shear.*** *The design strength of anchors in shear shall be the minimum of V_{ss} or ϕV_c where:*

$$V_{ss} = 0.75 A_b f_{ut}$$

and where loaded toward an edge greater than 10 diameters away,

$$\phi V_c = \phi\ 800\ A_b\ \lambda \sqrt{f'_c}$$ ~~0.5~~

For **SI:** $\phi V_c = 66.4\ \phi A_b\ \lambda \sqrt{f'_c}$ ~~0.5~~

or where loaded toward an edge equal to or less than 10 diameters away,

$$\phi V_c = \phi\ 2\ \pi\ d_e^2 \sqrt{f'_c}$$ ~~0.5~~

For **SI:** $\phi V_c = 0.166\ \phi\ \pi\ d_e^2\ \lambda \sqrt{f'c}$ ~~0.5~~

Where d_e equals the edge distance from the anchor axis to the free edge.

…

pg. 272.20 **2213A.6 Ordinary Moment Frame Requirements.** Ordinary moment frames (OMF) shall be designed to resist the load combinations in Section 1612A.3.
All beam-to-column connections in OMFs which resist earthquake forces shall meet one of the following requirements:

1. Fully restrained (Type F.R. or Type 1) conforming with Section 2213A.7.1.
2. Fully restrained (Type F.R. or Type 1) connections with the design strengths of the connections capable of resisting a combination of gravity loads and *Wo* times the design seismic forces.
3. Partially restrained (Type P.R. or Type 3) connections are permitted provided:

3.1 The connections are designed to resist the load combinations in Section 1612A.2 or 1612A.3, and

3.2 The connections have been demonstrated by cyclic tests to have adequate rotation capacity to accommodate a story drift due to ~~W~~ Ω_o times the design seismic forces.

3.3 The moment frame drift calculations shall include the contribution due to the rotation and distortion of the connection.

See Divisions I and III for definitions of fully restrained and partially restrained connections.

pg. 275 **2304.2 Minimum Capacity Or Grade**. Minimum Capacity Of Structural Framing Members May Be Established By Performance Tests. When Tests Are Not Made, Capacity Shall Be Based On Allowable Stresses And Design Criteria Specified In This Code.

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Wood Structural Panels Shall Be Of The Grades Specified In UBC Standards 23-2 Or 23-

3.

***EXCEPTION [For HCD 1 & 2]**: For Limited-Density Owner-Built Rural Dwellings, Owner-Produced Or Used Materials And Appliances May Be Utilized Unless Found Not To Be Of Sufficient Strength Or Durability To Perform The Intended Function; Owner-Produced Or Used Lumber, Or Shakes And Shingles May Be Utilized Unless Found To Contain Dry Rot, Excessive Splitting, Or Other Defects Obviously Rendering The Material Unfit In Strength Or Durability For The Intended Purpose.*

2304.5 Dried Fire-retardant-treated Wood. Approved fire- retardant-treated wood shall be dried, following treatment, to a maximum moisture content as follows: solid-sawn lumber 2 inches (51 mm) in thickness or less to 19 percent, and plywood to 15 percent.

~~***EXCEPTION [For HCD 1 & 2]**: For limited-density owner-built rural dwellings, owner-produced or used materials and appliances may be utilized unless found not to be of sufficient strength or durability to perform the intended function; owner-produced or used lumber, or shakes and shingles may be utilized unless found to contain dry rot, excessive splitting, or other defects obviously rendering the material unfit in strength or durability for the intended purpose.~~

pg. 378.17 TABLE 23-II-I-1—ALLOWABLE SHEAR FOR WIND OR SEISMIC FORCES IN POUNDS PER FOOT FOR PLYWOOD SHEAR WALLS WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE [1,2,3]

Delete column titled “PANELS APPLIED OVER 1/2- INCH (133mm) OR 5/8-INCH (16 mm) GYPSUM SHEATHING”